In weather routing, accurate weather data is only part of the equation. You must also know what to do with the information. This is how our shipping experts add value: each is an experienced merchant shipping officer. They include master mariners who have navigational knowledge and are familiar with vessel characteristics in various wind and sea conditions. Their knowledge and skills enable them to provide premium routing advice.

They are aware of the navigational features, including obstacles, sea currents, and waters affected by pirates. Plus, they understand the processes on the bridge. For example, they know when it is feasible and practical to issue new routes or adjust speed.
Why master mariner expertise is so valuable

There are many variables in shipping that make it hard to compare two journeys. However, the choice of route can make a massive difference to a voyage’s profitability. For example, when vessels pass Skagerrak on their way to the U.S. East Coast, they typically ask for advice on the next part of the route. They can either pass just above the British Isles or sail through the English Channel. In theory, a ship can knock 35 hours off its journey if it doesn’t go through the English Channel, but if the weather is worse on the alternative route, it can eliminate the time savings. Which route is best varies depending on the conditions at the time, which is why accurate, expert route guidance is crucial.

Routing advice in action: Hagibis

Rugby Union fans may recall the impact of Typhoon Hagibis on group stage games during the 2019 World Cup. But it wasn’t just the world of sport that was impacted by the most powerful typhoon to hit Japan since 1958. Vessels operating in the area had to take measures to avoid severe weather conditions.

One client operating a 50,000-ton deadweight LPG tanker was to sail from Yokkaichi Port on Japan’s south coast to Chiba in Tokyo Bay when Hagibis was expected to pass the area.

Even for a vessel of its size, the typhoon presented a significant safety threat. However, the vessel had to make the voyage and due to the conditions, it couldn’t proceed directly to Chiba. The tanker had to deviate from its course to avoid encountering the super typhoon.
Of course, the decision ultimately lies with the ship's captain, who followed the advice. The vessel was far enough away that it could reach a spot where it could safely wait out the typhoon. While the wind was quite strong, it was not a problem for the vessel. The swell kicked up by Hagibis was a greater concern for the tanker.

Once the system moved away from the vessel's destination, the vessel could return to the Japanese coast.

As the system tracked away, the vessel moved back towards Tokyo Bay. At this stage, the typhoon increased speed, tracking to the northeast, pulling away quickly. For the weather experts, this was a sign that the vessel could start proceeding back.

When the captain turned back to chase the typhoon, it was ultimately his decision. The captain was the one at sea and able to see the conditions. If he thought it was too severe, he was able to wait longer and maintain a greater distance.

Usually, the route is a half day's sail, but due to the weather and the need to wait out the storm, it took four days. More importantly, the ship arrived safely in Chiba.

**Interpreting complex weather data**

For extreme weather events like typhoons, the standard model data is not enough. To combat this, typhoon data is overlaid onto the standard NMB data, enhancing visibility into the situation.

There is always some uncertainty in forecasting such a system. The development of travel is not guaranteed because wind strength, the system's speed, and its developing intensity are always changing. These factors must be taken into account by the experts. There is a risk that the weather system might follow a different course, so routing options are needed to ensure the vessel won't be trapped. This risk assessment is part of the routing advice.
Update frequency in heavy weather
Routing experts typically advise vessels once a day, but if they believe the situation requires added attention, they will place the vessel on the heavy weather list. The list ensures ships have additional checks and updates as conditions warrant.

Strength of experience in route optimization
Master mariners and ex-seafarers are a real asset. They speak the same language as the crews, understand the realities of life at sea, and respect the responsibilities of the captains.

They are aware of specific challenges at various locations and for onboard processes. They understand how the bridge is used to change routes, fuel, and speed. They are also conscious of when it’s impractical to advise a change of course or speed, so they will provide feasible advice.

Shipping customers who use RouteGuard are in direct contact with the DTN team. Our master mariners consult on the exact requirements of every voyage to help optimize its route.

Sometimes this means helping customers make the fastest crossing possible, other times it’s about achieving a specific ETA or finding the most economical route. Regardless of the priority, our master mariners have the expertise.

The master mariners also learn everything they need to know about a client’s fleet so they can tailor their advice to each ship’s specific capabilities.

Learn more
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